

METHOD FOR REMOVAL OF MW176 CYCLIC ACETAL FORMED
DURING THE PRODUCTION OF 1,3-PROPANEDIOL

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Abstract of the Disclosure

The present invention is an improvement upon the process for the production of 1,3-propanediol (PDO) wherein an aqueous solution of 3-hydroxypropanal (HPA) is formed, and the HPA is subjected to hydrogenation to produce a crude PDO mixture comprising PDO, water, MW176 acetal, and high and low volatility materials, wherein the crude PDO mixture is dried to produce a first overhead stream comprising water and some high volatility materials and a dried crude PDO mixture as a first distillate bottoms stream comprising PDO, MW176 acetal, and low volatility materials, and wherein the dried crude PDO mixture is distilled to produce a second overhead stream comprising some high volatility materials, a middle stream comprising PDO and MW176 acetal, and a second distillate bottoms stream comprising PDO and low volatility materials. The improvement on this process comprises treating the crude PDO mixture and/or the dried crude PDO mixture and/or the PDO product with an acidic zeolite, an acid form cation exchange resin, or a soluble acid to convert the MW176 cyclic acetal to more volatile materials which can be easily separated from PDO by distillation.